

6



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,903	12/28/2000	Paul Kirkby	476-1981	2728

23644 7590 09/27/2004

BARNES & THORNBURG  
P.O. BOX 2786  
CHICAGO, IL 60690-2786

EXAMINER

NGUYEN, HAI V

ART UNIT PAPER NUMBER

2142

DATE MAILED: 09/27/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Handwritten mark

# Office Action Summary

Application No.

09/750,903

Applicant(s)

KIRKBY ET AL.

Examiner

Hai V. Nguyen

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on 28 December 2000.
- 2a)  This action is FINAL.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4)  Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-20 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a)  All    b)  Some \*    c)  None of:
1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office Action is in response to the application file don 28 December 2000.
2. Claims 1-20 are presented for examination.

#### ***Drawings***

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings are so fuzzy, unreadable. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

#### ***Claim Objections***

4. Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The element "a network manager" is not claimed in claim 15.
5. Claims 13, 20 are objected to because of the following informalities: "in machine readable form" is not necessary the same "in computer readable form". Appropriate correction is required.

**Claim Rejections - 35 USC § 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fodor et al. U.S patent no. **6,788,646 B1** in view of Frank P. Kelly's paper on European Transactions On Telecommunications.

8. As to claim 1, Fodor, Link Capacity Sharing For Throughput Blocking Optimality, discloses a method of controlling admission of a traffic flow to a communications network, the method comprising sampling the traffic flow (*Fodor, call-level modeling elastic traffic, Abstract, col. 2, line 41 – col. 4, line 2; col. 11, lines 9-18; col. 19, line 1 – col. 20, line 18*), determining from said sampling a mean bandwidth requirement for the traffic flow and a measure of the variance from that mean (*Fodor, FIG. 5 is a graph illustrating the mean and the variance of the throughput of adaptive elastic flows as a function of their service time for an illustrative example of a transmission link system, col. 19, line 1 – col. 20, line 18; col. 11, lines 9-18*) and however, Fodor does not explicitly disclose determining from said mean and variance a price for admission of the traffic flow to the network. Thus, the artisan would have been motivated to look into the related network management art for potential methods and systems for implementing determining a price for admission of the traffic flow to the network.

Art Unit: 2142

In the same field of endeavor, Kelly, Charging And Rate Control For Elastic Traffic, disclose, in analogous art, that a model is described from which max--min fairness of rates emerges as a limiting special case; more generally, the charges users are prepared to pay influence their allocated rates (*Kelly, Abstract, section 1, pages 1-2*).

Accordingly, it would have been obvious to one of ordinary skill in the networking management art at the time the invention was made to have incorporated Kelly teachings of using a model for determining the user's rate according to a proportional fairness criterion (*Kelly, Abstract, pages 1-10*) with the teachings of Fodor, for the purpose of *achieving the fairness and the system optimum when users' choices of charges and the network's choice of allocated rates are in equilibrium (Kelly, page 10, section 5)*.

9. As to claim 2, Fodor-Kelly discloses, wherein respective maximum bandwidth control limits are defined for both the mean and variance of the components of the traffic flow, and wherein said admission price is increased as the separate demands of the traffic flow approaches one or both of these limits (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; Kelly, pages 1-10*).

10. As to claim 3, Fodor-Kelly discloses, wherein said price of an ingress flow is determined in the sum of separate pricing determinations for said mean and said variance (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; Kelly, pages 1-10*).

11. As to claim 4, Fodor-Kelly discloses, wherein said mean pricing determination is a function of the difference between said mean and the control limit, and of the first and

Art Unit: 2142

second derivatives against time of said means (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; Kelly, pages1-10*).

12. As to claim 5, Fodor-Kelly discloses, wherein said variance pricing determination is a function of the difference between said control limit and the sum of said mean and the standard deviation corresponding to said variance, and of the first and second derivatives against time of the standard deviation (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; Kelly, pages1-10*).

13. As to claim 6, Fodor-Kelly discloses where said variance pricing further includes a weighting function (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; Kelly, pages1-10*).

14. As to claim 7, Fodor-Kelly discloses a method of controlling traffic flow in a communications packet network, the method comprising determining for flows within the network a mean utilization requirement and a measure of a variance from that mean, and determining from said mean and variance a bandwidth pricing so as to control the admission of said flows to the network (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 11, lines 9-18; col. 19, line 1 – col. 20, line 7; Kelly, pages1-10*).

15. As to claim 8, Fodor-Kelly discloses a method of controlling admission of traffic flows to a communications network, the method comprising sampling the traffic flows each at an ingress, and sampling an aggregate flow of said flows at some or all of the resources used by the aggregate flow, determining from said sampling a mean bandwidth requirement for each traffic flow and a measure of the variance from that mean, determining from said mean and variance measurements first and second prices for the mean and variance components of the controlled traffic flows that are admitted to

Art Unit: 2142

the network, and determining from said first and second prices an admission cost for each said flow so as to regulate the admission of that flow (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 11, lines 9-18; col. 19, line 1 – col. 20, line 7; Kelly, pages 1-10*).

16. As to claim 9, Fodor-Kelly discloses a method as claimed in claim 8, wherein maximum bandwidth control limits are defined respectively for both the mean and variance components of the traffic flow, and wherein said first and second prices are increased as the separate demands of the traffic flow approach or exceed their respective limits (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).

17. As to claim 10, Fodor-Kelly discloses, wherein said mean pricing determination is a function of the difference between said mean and the control limit and of the and of the first and second derivatives against time of said mean (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).

18. As to claim 11, Fodor-Kelly discloses, wherein said variance pricing determination is a function of the difference between said control limit and the sum of said mean and the standard deviation corresponding to said variance, and of the first and second derivatives against time of the standard deviation (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).

19. As to claim 12, Fodor-Kelly discloses, where said variance pricing further includes a weighting function (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).

Art Unit: 2142

20. As to claim 13, Fodor-Kelly discloses, and embodied as software in machine readable form on a storage medium (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 5, lines 10-26; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).

21. As to claim 14, Fodor-Kelly discloses an admission control arrangement for a communications network, the arrangement comprising sampling means for sampling a traffic flow, means for determining from said sampling means a measure of mean bandwidth requirement and of a variance from that mean, and price computation means for determining from said mean and variance a cost or price for bandwidth case so as to provide ingress price control for admission of the traffic flow to the network (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 5, lines 10-26; col. 11, lines 9-18; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).

22. Claims 15-18 are similar limitations of claims 2, 4-6; therefore, they are rejected under the same rationale as in claims 2, 4-6.

23. As to claim 19, Fodor-Kelly discloses a network manager incorporating an admission control arrangement (*Fodor, Kelly, the user*).

24. As to claim 20, Fodor-Kelly discloses network manager embodied as software in machine readable form on a storage medium (*Fodor, Figs. 5-7, col. 2, line 41 – col. 4, line 2; col. 5, lines 10-26; col. 19, line 1- col. 20, line 18; Kelly, pages 1-10*).



Art Unit: 2142

25. Further references of interest are cited on Form PTO-892, which is an attachment to this action.


26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai V. Nguyen whose telephone number is 703-306-0276. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on 703-305-9705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai V. Nguyen  
Examiner  
Art Unit 2142

*HN*

  
JACK B. HARVEY  
SUPERVISORY PATENT EXAMINER